

CIRCUIT IDEAS

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EACH MONTH'S TOP
CIRCUIT IDEA
AUTHOR WILL
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LOOKING FOR
INGENUITY AND
ORIGINALITY IN THE
USE OF MODERN
COMPONENTS

£100
IDEA

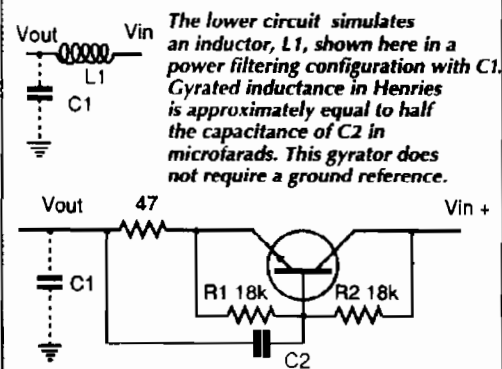
Gyrator acts as electronic choke

A gyrator can take the place of a straight resistor or inductor in filtering out noise and ripple on a power supply bus. Like the inductor which it simulates, it passes DC current with minimal voltage drop across its two terminals while providing a high impedance to AC.

The maximum level of AC noise and ripple which it can deal with is determined by the DC voltage drop across the transistor, itself determined by the ratio of R_1 to R_2 . The simulated inductance relates directly to the size of C_2 and has a value in henries of about half the value of C_2 in μF .

The gyrator may also be used to hold down a PSTN line while providing a high impedance path to the 600 Ω audio.

P Strict
Reigate
Surrey



High-power, class-A amplifier

To draw only direct current from the supply, to provide high power and to eliminate crossover distortion were the aims of this design.

Main circuitry is concentrated around IC_1 , which has AC and DC feedback and provides a gain of 28 from 2Hz to 59kHz at a power output of 50W. Power transistor Tr_2 completes the DC feedback loop from the drain of Tr_1 to maintain constant current flow in the upper power transistor, taking as much current from the supply as may be needed to do that. The driver mosfet thereby acts as an ideal transistor.

A M Wilkes
Glasgow.

Class-A amplifier in which the driver mosfet operates in ideal mode; in which crossover distortion is negligible; and which becomes a

